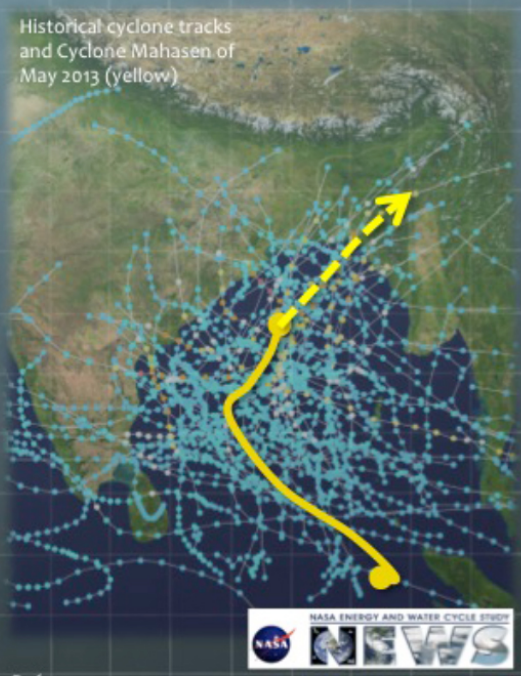
Human activity likely caused tropical cyclones like Mahasen to intensify and turn to Myanmar



There has been an intensification of tropical cyclone activity over the Bay of Bengal (BOB) during the pre-monsoon season of May. The cyclone count has increased in spring and more cyclones grew to hurricane force. Moreover, hurricane-force cyclones that made landfall in either Bangladesh or Myanmar have doubled in number, suggesting that cyclones developed in the BOB have become more likely to grow into hurricane force and more likely to strike Bangladesh and Myanmar.

A new research sponsored by NASA (NEWS) found that the springtime troposphere over India and the BOB has expanded due to regional atmospheric warming. The tropospheric expansion leads to a stronger monsoonal circulation, increasing both the cyclone intensity and pre-monsoon precipitation. The latter likely contributes to the deadly tornado in Bangladesh on March 22.

The tropospheric warming and associated deepening of the monsoon trough are most likely caused by two discreet anthropogenic (man-made) causes: (1) an increase in aerosol – fine, airborne particles such as dust and black carbon (burning) – and (2) ocean surface warming that results from increased greenhouse gases.

Reference:
Wang, S.-Y., B. Buckley, J.-H. Yoon and B. Fosu, 2013: Intensification of pre-monsoon tropical cyclones in the Bay of Bengal and its impacts on Myanmar. *Journal of Geophysical Research*, doi: 10.1002/jgrd.50396.